

Claims

1. A method of announcing sessions transmitted through a network, the method comprising:

5 providing a first set of announcements describing a plurality of sessions; and
providing a second set of announcements describing at least one updated session.

2. A method according to claim 1, comprising providing said first set of
10 announcements through a first channel and providing said second set of announcements through a second, different channel.

3. A method according to claim 1 or 2, wherein providing said first set of announcements and providing said second set of announcements comprises
15 providing said first set of announcements through a first address and providing said second set of announcements through a second, different address respectively.

4. A method according to any preceding claim, wherein providing said first set of announcements and providing said second set of announcements comprises
20 providing said first set of announcements through a first destination address and providing said second set of announcements through a second, different destination address respectively.

5. A method according to any preceding claim, wherein providing said first set of announcements and providing said second set of announcements comprises
25 providing said first set of announcements through a first IP address and providing said second set of announcements through a second, different IP address respectively.

30 6. A method according to any claim, wherein providing said first set of announcements and providing said second set of announcements comprises providing said first set of announcements through a first IP multicast address and

providing said second set of announcements through a second, different IP multicast address respectively.

- 5 7. A method according to any preceding claim, wherein providing said first set of announcements and providing said second set of announcements comprises providing said first set of announcements through a first port number and providing said second set of announcements through a second, different port number respectively.
- 10 8. A method according to any claim, wherein providing said first set of announcements and providing said second set of announcements comprises providing said first set of announcements through a first logical channel and providing said second set of announcements through a second, different logical channel respectively.
- 15 9. A method according to any preceding claim, wherein providing said first set of announcements and providing said second set of announcements comprises including in each announcement of said first set of announcements data for identifying said announcement as an announcement which describes a one of said plurality of sessions and in each announcement of said second set of
20 announcements data for identifying said announcement as an announcement which describes a one of said at least one updated session.
- 25 10. A method according to any preceding claim, wherein providing said first set of announcements and providing said second set of announcements comprises including in each announcement of said first set of announcements respective data for specifying a position of a corresponding session within a first portion of a session directory and including in each announcement of said second set of announcements respective data for specifying a position of a corresponding session
30 within a second portion of the session directory.
11. A method according to any preceding claim, wherein providing said first set of announcements and providing said second set of announcements comprises

providing said first set of announcements through a first physical channel and providing said second set of announcements through a second, different physical channel respectively.

5 12. A method according to any preceding claim, wherein providing said first set of announcements and providing said second set of announcements comprises providing said first set of announcements through a first network and providing said second set of announcements through a second, different network respectively.

10 13. A method according to any preceding claim, further comprising providing a third set of announcements describing another plurality of sessions including said at least one updated session.

14. A method according to any preceding claim, comprising:
15 providing said first set of announcements through a first channel;
providing said second set of announcements describing at least one updated session through a second, different channel; and
providing a third set of announcements describing another plurality of sessions including said at least one updated session through said first channel.

20 15. A method according to any preceding claim, comprising arranging the providing of said second set of announcements after the providing of said first set of announcements.

25 16. A method according to any preceding claim, wherein providing said first set of announcements and providing said second set of announcements comprises transmitting said first set of announcements through a first channel and transmitting said second set of announcements through a second, different channel.

30 17. A method according to any preceding claim, comprising transmitting said first set of announcements according to a session announcement protocol (SAP).

18. A method according to any preceding claim, comprising transmitting said first set of announcements according to a unidirectional transport protocol.
19. A method according to any preceding claim, comprising transmitting said first
5 set of announcements according to unidirectional hypertext transfer protocol (UHTTP).
20. A method according to any preceding claim, comprising transmitting said first set of announcements according to asynchronous layered coding (ALC) protocol.
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21. A method according to any preceding claim, comprising transmitting said first set of announcements according to user datagram protocol (UDP).
22. A method according to any preceding claim, comprising including a
15 description of a corresponding session in each announcement.
23. A method according to any preceding claim, comprising including a description of a corresponding session arranged according to session description protocol (SDP) in each announcement.
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24. A method according to any preceding claim, comprising providing means for determining whether all of said first set of announcements have been provided.
25. A method according to any preceding claim, comprising providing said first
25 set of announcements as a series of linked messages.
26. A method according to any preceding claim, comprising providing said first set of announcements in a first set of time slots and providing said second set of announcements in a second set of time slots, each timeslot of said first set of
30 timeslots being provided at a different time from each timeslot of said second set of timeslots.

27. A method according to any preceding claim, comprising multiplexing said first and second sets of announcements.

28. A method according to any preceding claim, further comprising providing a
5 third set of announcements identifying said at least one updated session.

29. A method according to any preceding claim, wherein providing the second set of announcements describing the at least one updated session comprises providing a set of announcements identifying the at least one updated session.

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30. A method according to any preceding claim, wherein providing the second set of announcements describing the at least one updated session further comprises including a description of a corresponding session.

15 31. A method according to any preceding claim, wherein providing the second set of announcements describing the at least one updated session comprises providing a set of notifications pointing to the at least one updated session.

32. A method of announcing sessions transmitted through a network, the method
20 comprising:
 providing a first set of announcements describing a plurality of sessions; and
 providing a second set of announcements identifying at least one updated session.

25 33. A method according to claim 32, further providing a third set of announcements describing said at least one updated session.

34. A method according to any preceding claim, comprising transmitting at least one of said sets of announcements according to asynchronous layered coding (ALC)
30 protocol.

35. A method according to any preceding claim, comprising transmitting at least one of said sets of announcements according to a protocol based on asynchronous layered coding (ALC) protocol.
- 5 36. A method according to any preceding claim, comprising defining an asynchronous layered coding (ALC) protocol session and defining at least one ALC channel.
- 10 37. A method according to claim 36, comprising transmitting a set of metadata for describing the plurality of sessions via a first ALC channel.
38. A method according to claim 36 or 37, comprising transmitting a set of metadata for describing at least one updated session via a second, different ALC channel.
- 15 39. A method according to claim 36, 37 or 38, comprising transmitting a set of metadata for identifying said at least one updated session via a third, different ALC channel.
- 20 40. A method according to any one of claim 33 to 39, comprising transmitting a one set of metadata as a transport object.
41. A method according to claim 40, further comprising defining a respective delivery table relating to the transport object and transmitting said delivery table.
- 25 42. A computer program which, when executed by data processing apparatus, causes the data processing apparatus to perform a method of announcing sessions transmitted through a network according to any preceding claim.
- 30 43. A method of accessing sessions transmitted through a network, the method comprising:
selectively receiving a first set of announcements describing a plurality of sessions; and

selectively receiving a second set of announcements describing at least one updated session.

44. A method according to claim 43, further comprising determining whether all
5 of said first set of announcements have been received.

45. A method according to claim 44, further comprising selecting not to receive further said first set of announcements and selecting to receive said second set of announcements.

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46. A method according to claim 43 or 44, further comprising selecting not to receive a third set of announcements describing another plurality of sessions including said at least one updated session.

15 47. A method according to any one of claims 43 to 46, further comprising selecting to receive a fourth set of announcements describing at least one further updated session.

48. A method according to any one of claims 43 to 47, comprising using said
20 second set of announcements to identify said at least one updated session.

49. A method according to claim 48, comprising selecting to receive another set of announcements including a description of said at least one updated session.

25 50. A method according to claim 49, comprising obtaining a description of said at least one updated session.

51. A method of accessing sessions transmitted through a network, the method comprising:

30 selectively receiving a first set of announcements describing a plurality of sessions; and

selectively receiving a second set of announcements identifying at least one updated session.

52. A method according to claim 51 further comprising
selectively receiving a third set of announcements describing said at least one
updated session.

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53. A method of accessing sessions transmitted through a network, the method
comprising:

listening to a first set of announcements describing a plurality of sessions;
determining whether said first set of announcements have been received;
10 if said first set of announcements have been received, then
stopping listening to said first set of announcements and
listening to a second set of announcements describing at least one updated
session.

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54. A method according to claim 53, further comprising:
stopping listening to a third set of announcements describing a further
plurality of sessions including said at least one updated session.

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55. Apparatus for announcing sessions transmitted through a network, the
apparatus comprising:
means for providing a first set of announcements describing a plurality of
sessions; and
means for providing a second set of announcements describing at least one
updated session.

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56. Apparatus for performing the method according to any one of claims 1 to 41.

57. Apparatus for announcing sessions transmitted through a network, the
apparatus comprising:

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a first transmitter for providing a first set of announcements describing a
plurality of sessions; and
a second transmitter for providing a second set of announcements describing
at least one updated session.

58. Apparatus for accessing sessions transmitted through a network, the apparatus comprising:

5 means for selectively receiving a first set of announcements describing a plurality of sessions; and

means for selectively receiving a second set of announcements describing at least one updated session.

59. Apparatus according to claim 58, comprising:

10 means for determining whether said first set of announcements has been received;

said apparatus being configured such that if said determining means determines that said first set of announcements has been received, then the means for selectively receiving said second set of announcements is configured to receive
15 said second set of announcements.

60. Apparatus according to claim 59, comprising:

means for selectively receiving a third set of announcements describing another plurality of session including said at least one updated session;

20 said apparatus being configured such that if said determining means determines that said first set of announcements has been received, then the means for selectively receiving said third set of announcements is configured not to receive or not to forward said third set of announcements.

25 61. Apparatus according to any one of claims 58 to 60 which is a mobile communications device.

62. A system for presenting program schedule data on a display, said system comprising at least two announcements, the schedule data being organized at least
30 partly from a first set of announcements describing at least partly a plurality of sessions and at least partly from a second set of announcements describing at least one at least partly updated session.

63. A system for presenting program schedule data on a display, said system comprising at least two announcements, the schedule data being organized at least partly from a first set of repeatable announcements describing a plurality of sessions, at least partly from a second set of repeatable announcements describing at least one at least partly updated session and at least session descriptions of at least one of the repeatable announcements for defining whether the at least one of the first and second announcements is received or not.

64. A system for delivering program schedule data to end-user terminals, said system comprising two sets of announcements, each set comprising at least one announcement, the schedule data being organized at least partly from a first set of announcements describing at least partly a plurality of sessions and at least partly from a second set of announcements describing at least one at least partly updated session.

65. A system for presenting program schedule data to end-user terminals, said system comprising at least two set of announcements, each set comprising at least one announcement, the schedule data being organized at least partly from a first set of repeatable announcements describing a plurality of sessions, at least partly from a second set of repeatable announcements describing at least one at least partly updated session and at least session descriptions of at least one of the repeatable announcements for defining whether the at least one of the first and second announcements is received or not.

66. A system according to any one of claims 63 to 65 claim, wherein the second set of announcements include a version number of each updated session for allowing a client to detect if they have missed an earlier update.

67. A system according to claim 66, wherein if a client detects it has missed an earlier update and is not currently receiving the first set of announcements, the client starts receiving the first set of announcements until it has received a full and latest version of the program schedule data.

68. A system according to claim 67, wherein if the client detects that it has received a full and latest version of the program schedule data, it stops receiving the first set of announcements and continues receiving only the second set of announcements.

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69. A system according to any one of claims 66 to 68, wherein if the client detects it has missed an earlier update, it fetches a full and latest version of the program schedule data over an interactive network.

10 70. A system according to any one of claims 66 to 69, where each set of repeatable announcements is divided into segments before transmission and a location of each segment within a whole transfer is indicated in a framing field of each respective segment; the indicated location enables clients to determine whether they have received all segments that constitute a given set or whether they need to wait for
15 receiving more segments.

71. A system according to any one of claim 66 to 70, wherein the program schedule data is viewed either directly by a human end-user or automatically used by a software application.

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72. A system according to any one of claims 66 to 71, wherein the program schedule data is presented progressively to a human end-user or made progressively available to an automatic software application as the said data is being received.

25 73. A system according to claims 71 or 72, wherein the program schedule data is viewed by a human end-user via a graphical user interface.

74. A system according to claims 71 or 72, wherein the program schedule data is used by a personal video recorder.

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